125kW, 1500Vdc String Inverter for North America

The 125kW high power CPS three phase string inverter is designed for ground mount applications. The unit is a high performance, advanced and reliable inverter designed specifically for the North American environment and grid. High efficiency at 99.1% peak and 98.5% CEC, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 125kW product ships with a non-separable Standard Wire-box, fully integrated with a DC disconnect switch. The Standard Wire-box includes touch safe positive polarity fusing for up to 20 strings. The CPS Flex Gateway enables communication, controls and remote product upgrades.

Key Features

- NFPA 70, 2017 compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS Flex Gateway enables remote FW upgrades
- Integrated DC disconnect switch
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper and Aluminum compatible AC connections

- NEMA Type 4X outdoor rated, tough tested enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA Headroom yields 125kW @ 0.95PF
- Generous 1.5 DC/AC Inverter Load Ratio
- Selectable Max AC Apparent Power of 125/132kVA
- Standard 5 year warranty with extensions to 20 years
## Technical Data

### Model Name
CPS SCH125KTL-AIO/US-600

### DC Input
- **Max. PV Power**: 187.5kW
- **Max. DC Input Voltage**: 1500V
- **Operating DC Input Voltage Range**: 680-1450Vdc
- **Start-up DC Input Voltage / Power**: 900V / 250W
- **Number of MPP Trackers**: 1
- **MPPT Voltage Range1**: 870-1300Vdc
- **Max. PV Input Current (Isc x 1.25)**: 275A
- **Number of DC Inputs**: 20 PV source circuits, pos. fused
- **DC Disconnection Type**: Load-break rated DC switch
- **DC Surge Protection**: Type II MOV (with indicator/remote signaling), Up=2.5kV, In=10kA (8/20μS)

### AC Output
- **Rated AC Output Power**: 125kW
- **Max. AC Output Power2**: 125kVA (132kVA @ PF>0.95)
- **Rated Output Voltage**: 600Vac
- **Output Voltage Range3**: 528-660Vac
- **Grid Connection Type4**: 3Φ / PE / N (Neutral optional)
- **Max. AC Output Current @600Vac**: 127.2A
- **Rated Output Frequency**: 60Hz
- **Output Frequency Range3**: 57-63Hz
- **Power Factor**: >0.99 (+0.8 adjustable)
- **Current THD**: <3%
- **Max. Fault Current Contribution (1-cycle RMS)**: 41.47A
- **Max. OCPD Rating**: 200A
- **AC Surge Protection**: Type II MOV (with indicator/remote signaling), Up=2.5kV, In=10kA (8/20μS)

### System
- **Topology**: Transformerless
- **Max. Efficiency**: 99.1%
- **CEC Efficiency**: 98.5%
- **Stand-by / Night Consumption**: <4W

### Environment
- **Enclosure Protection Degree**: NEMA Type 4X
- **Cooling Method**: Variable speed cooling fans
- **Operating Temperature Range**: -22°F to +140°F / -30°C to +60°C (derating from +113°F / +45°C)
- **Non-Operating Temperature Range5**: -40°F to +158°F / -40°C to +70°C maximum
- **Operating Humidity**: 0-100%
- **Operating Altitude**: 8202ft / 2500m (no derating)
- **Audible Noise**: <65dBA@1m and 25°C

### Display and Communication
- **User Interface and Display**: LED Indicators, WiFi + APP
- **Inverter Monitoring**: Modbus RS485
- **Site Level Monitoring**: CPS Flex Gateway (1 per 32 inverters)
- **Modbus Data Mapping**: SunSpec/CPS
- **Remote Diagnostics / FW Upgrade Functions**: Standard / (with Flex Gateway)

### Mechanical
- **Dimensions (WxHxD)**: 42.7x24.3x11.2in (1085x616x283.5mm)
- **Weight**: 158lbs / 72kg
- **Mounting / Installation Angle**: 15 - 90 degrees from horizontal (vertical, angled)
- **AC Termination**: M8 Stud Type Terminal Block (Wire range: #6 - 500MCM AWG CU/AL, Lugs not supplied)
- **DC Termination3**: Screw Clamp Fuse Holder (Wire range: #12 - #6AWG CU) - Standard Wire-box
- **Fused String Inputs**: 15A or 20A fuses provided (SKU specific)

### Safety
- **Safety and EMC Standard**: UL1741-SA-2016, CSA-C22.2 NO.107.1-01, IEEE1547a-2014; FCC PART15
- **Selectable Grid Standard**: IEEE 1547a-2014, CA Rule 21, ISO-NE
- **Smart-Grid Features**: Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-Var, Freq-Watt, Volt-Watt

### Warranty
- **Standard**: 5 years
- **Extended Terms**: 10, 15 and 20 years

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1) See user manual for further information regarding MPPT Voltage Range when operating at non-unity PF
2) "Max. AC Apparent Power" rating valid within MPPT voltage range and temperature range of -30°C to +45°C (-22°F to +104°F) for 125KW PF ≥0.95
3) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.
4) Wye neutral-grounded. Delta may not be corner-grounded.
5) See user manual for further requirements regarding non-operating conditions.
6) Wire-box only includes fuses/fuseholders on the positive polarity, compliant with NEC 2017, 690.9 (C).